UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,348	08/16/2001	Gregory Rade Warner	13DV13856	2647

6111 7590 09/29/2004

GENERAL ELECTRIC COMPANY
ANDREW C HESS
GE AIRCRAFT ENGINES
ONE NEUMANN WAY M/D H17
CINCINNATI, OH 452156301

EXAMINER	
GURSHMAN, GRIGORY	

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/931,348	WARNER ET AL.	
	Examiner	Art Unit	
	Grigory Gurshman	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/22/04, 4/09/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 6 - 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoffman (U.S. Patent No. 5.613.012).

3. Referring to the instant claims, Hoffman discloses a system for authorization of electronic transmissions (see abstract). Hoffman teaches that the document is processed by a message digest encoding algorithm that generates a message digest code. One such algorithm is the MD5 algorithm by RSA, which is well known in the industry. By their nature, message digest algorithms are specifically designed so that it is almost impossible to come up with another document that generates the same message digest code. According to Hoffman, to verify a signature, a message digest for the document are first calculated (using RSA's MD5 for instance) and sent along with the document's signature tags. The ESD looks up the signature tags and validates the just recently calculated message digest against the message digest stored in the database (see Fig. 21).

4. Referring to the limitation "generating a digital document containing the information; applying an algorithm to the digital document, and producing an

output ; and encrypting the output into cipher text using an encryption key" is met by teaching that document to be signed is processed by a message digest encoding algorithm that generates a message digest code. The message digest is encoded in order to produce a digital signature. Hoffman teaches encryption of the MAC (see Fig.2)

5. Referring to claim 7, Hoffman teaches that no paper document is signed.

6. Referring to claim 8 and 9, Hoffman meets the limitation "transmitting the cipher text and the digital document over a public-access network to storage location" and the limitation " applying the algorithm to the digital document to produce a second output and comparing the recovered output with the second output" by depicting it in Fig. 2.

7. Referring to claim 10, Hoffman teaches that information is stored in searchable databases (see Fig.2).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandifer (U.S. Patent No. 6.292.806 B1) in view of Hoffman (U.S. Patent No. 5.613.012).

10. Referring to the independent claims 1 and 12, Sandifer discloses a computer aided maintenance and repair information system for equipment subject to regulatory compliance (see title and Fig 1.A). Sandifer teaches a computer based apparatus and method which provide access to complex technical information employed to maintain and repair complicated equipment, such as aircraft, to enable compliance with regulatory requirements (see background part 2). Sandifer also teaches a CD-ROM-based computer system, which runs an aircraft maintenance and repair assistance program that includes a number of novel features for accessing and managing aircraft maintenance and repair information. The use of CD-ROM technology enables the system to be economically feasible for both information providers, such as manufacturers and governmental agencies, and general aviation maintenance and repair operations to transfer to electronic delivery of maintenance and repair publications (see summary and Figs. 1 and 26).

11. Referring to the independent claims 1 and 12, the limitations "generating a digital document which records events occurring in maintenance of an aircraft" and "multiple digital documents generated by parties involved in maintenance of aircraft" are met by user interface (Fig. 26), which allows users to record the information pertaining to the aircraft maintenance procedures thereby generating an electronic records or documents shown in Fig.1B. Referring to claim 12, the limitation "a repository containing within the searchable database data items extracted form the digital documents" is met by ATP maintenance Information system depicted in Fig. 16 having search capabilities as shown in Fig. 11.

12. Sandifer, however, does not explicitly teach generating a Message Authentication Code (MAC) for each digital document. Referring to the instant claims, Hoffman discloses a system for authorization of electronic transmissions (see abstract). Hoffman teaches that the document is processed by a message digest encoding algorithm that generates a message digest code. One such algorithm is the MD5 algorithm by RSA, which is well known in the industry. By their nature, message digest algorithms are specifically designed so that it is almost impossible to come up with another document that generates the same message digest code (see column 33, lines 9 -11). According to Hoffman, to verify a signature, a message digest for the document are first calculated (using RSA's MD5 for instance) and sent along with the document's signature tags. The ESD looks up the signature tags and validates the just recently calculated message digest against the message digest stored in the database (see Fig. 22).

Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to generate a digital document which records aircraft maintenance information of Sandifer and generate a message digest (i.e. MAC) for each of the digital documents as taught in Hoffman. One of ordinary skill in the art would have been motivated to generate a digital document which records aircraft maintenance information and generate a MAC for each of the digital documents as taught in Hoffman for verification of the authenticity of the document.

13. Referring to claims 2 and 3, the limitations "encrypting the MAC into cipher text" and "storing the cipher text and the digital document" are met by Fig.2 of Hoffman.

14. Referring to claim 5, Hoffman teaches recovering the MAC from the cipher text and ascertaining validity of the digital document using the MAC (see Fig.2).

15. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandifer (U.S. Patent No. 6.292.806 B1) in view of Hoffman (U.S. Patent No. 5.613.012) and further in view of Carlson (U.S. Patent No. 4.004.382).

16. Referring to the instant claims, Sandifer and Hoffman teach the means for generating maintenance records of the aircraft in digital format and a system for generating a MAC based on the records. Sandifer and Hoffman, however do not teach aircraft being inside the building. Referring to the instant claims, Carlson discloses a hangar facility for storage and maintenance of the aircraft (see abstract and Fig. 1). Therefore at the time the invention was made, it would have been obvious to one of ordinary skill in the art to create the means for generating maintenance records of the aircraft in digital format and a system for generating a MAC based on the records of Sandifer and Hoffman while having the aircraft in maintenance hangar as taught in Carlson. One of ordinary skill in the art would have been motivated to create the means for generating maintenance records of the aircraft in digital format and a system for generating a MAC based on the records while having the aircraft stationed in the

maintenance hangar as taught in Carlson for performing the maintenance task away form the elements.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grigory Gurshman whose telephone number is (703) 306-2900. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GG

Grigory Gurshman
Examiner
Art Unit 2132

GILBERTO BARRÓN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100